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owned twenty-five indigo trees had to take their produce to Ilorin market just at the time of the second yam harvest. However, they preferred to sell indigo first and to postpone the digging out of yam for a month or two, although this meant losing the always profitable market for the first yams of the season. The element of economic calculation, to which we have already assigned its place in the planning of Nupe agriculture, reveals its efficacy in this new context as well.

Not much need be said about the other fruit-bearing trees. The fruit of the mango tree is eaten when and wherever it can be picked or gathered up from the ground; it is not traded—like the banana it is 'just fruit'. The tender young leaves of the baobab (*muci*) are used as food; they are pounded and sold in the markets as a vegetable which is added to soup and meat. In order to obtain the tender leaves the owner of the tree lops the big branches so as to make them sprout new leaves. The cotton-wool-like kapok which is contained in the capsules of the silk-cotton tree (*lembubu*) is traded in one or two markets of the country; it is bought by the Bida cushion-makers and also by the canoe-men on the Niger, who use its fine fibres to stop leaks in their canoes. The commercial use of this tree and its fruits has not yet penetrated into the more remote districts: while in Kutigi, on the main road, natives were collecting kapok to sell it to the Bida cushion-makers, I found in Sakpe, only ten miles away but right in the bush, the cotton-wool left unused, lying on the ground to be carried away by the wind. When I asked a number of men why they did not collect it and take it to the market—I could call upon a boy from Bida whom I had with me to bear out my contention that this stuff possessed commercial value—they replied, not wholly convinced, that it would be too hard work. Another example of rudimentary 'economic calculation', with leisure weighed against money-profit.

INNOVATIONS IN PRODUCTION

From this discussion an interesting question arises: why have the Nupe, who have mastered the cultivation of kola-nut and banana, not taken to the cultivation of other trees as well, but left most of their fruit-bearing trees to the 'care of God'. If you ask a Nupe farmer he will give you one of two answers: either the vague theological excuse that God has planted the trees, and that God will look after them; or the more rationalistic but no less acquiescent explanation: 'If I planted a tree I should never see its fruit, only my grandchildren would profit by it. Our grandfathers have not planted trees for us, why then should we plant for our grandchildren?' The fact, well known to everyone, that the Kusopa plant and cultivate trees is yet easily dismissed. This is one of the cultural features typical of certain tribal sections which are simply taken for granted by the other groups. The myth that explains how it came about that just this and no other sub-tribe happened to become kola-nut planters, the special magic which the members of that sub-tribe are believed to own provide the spiritual background for this attitude. This acceptance of an existing productive specialization as if it were a final and unalterable fact was effective enough, as we have seen,

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to check the attempts to extend kola plantation in Nupe. Whether or not it will check other attempts at agricultural innovations one cannot say.[1]

Often in discussions of this kind the reluctance of a native group to adopt a certain innovation is summarily dismissed as being due to the inveterate, almost proverbial, 'conservatism' of the native races. Clearly, such an explanation does not meet the case. As regards the Nupe we should have to contrast their alleged 'conservatism' with respect to trees with the readiness with which they adopt new crops and agricultural techniques. Evidently, to adopt a new crop which shows results in a year's time, and which is easy to tend, often easier than the traditional crops (as in the case of maize or cassava), and to take up the difficult work of planting trees which may not bear fruit for six or seven years, is an entirely different thing. One can be easily fitted into the framework of established agricultural activities while the other involves a complete readjustment of the productive system. The Nupe are, within limits, extremely progressive people, and keen on trying out new things. These limits are determined by two factors: first, by the time that an ordinarily crowded working year could allow for additional tasks; other work, or precious leisure time might have to be given up for the sake of the innovation—a change that may or may not appear worth while to the Nupe farmer. The second factor is the measure of change which a readjustment of the native production would entail in this closely knit economic system, with its exact balance of specialization and exchange. Every radical change in the production, such as the adoption of tree-cultivation in a district, may upset this balance; it may, in other words, make the innovation less profitable. The fact that the Nupe farmer is go-ahead with respect to certain farm techniques and 'conservative' with respect to others is not due to any tribal or racial 'conservatism', but reveals itself as a clear instance of the working of free economic choice.

TECHNIQUE AND KNOWLEDGE

So advanced a technique and so conspicuous a standard of husbandry must involve a body of theoretical knowledge which goes far beyond the counsels of peasant lore, and could avouch statements of very nearly scientific authority. This is no doubt the case in Nupe farming. The understanding of the basic principle of manuring, the fixed rules with regard to rotation and lying fallow, the practice of thinning-out the growing plants, which is correctly explained as being intended to give the plant more space, they all confirm this.[2] Moreover, while in many African

[1] Rev. Ira W. Sherk, the head of the U.S. Mission at Mokwa, has been successful in making the people of a small neighbouring village adopt the cultivation of grapefruit. This innovation, carried out on a very small scale, and involving hardly any difficult readjustment of the native productive organization, bears out what is said later in the text about the limits that are set to all such innovations.

[2] I must record that one of my Bida informants, an experienced farmer, denied the value of ashes and the burning of fields as manure. He held that animal manure (with the regular use of which he as a Bida farmer was well acquainted) was the only effective manure. This critical attitude only emphasizes the element of empirical knowledge in Nupe farming technique.

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241 463 the person who is destroying his abode. These big trees have a money-value, and are sold to the wood-cutters and carpenters, who use the timber in their own industry. On the whole the Nupe are reluctant to cut down big trees, especially in the town, for they appreciate the shade which they give. But it happens occasionally that the owner of a barren tree, in need of money, has it cut down and sells the timber to wood-cutters or carpenters.

185 651 322 In the interest of forest-preservation the felling of certain trees has been made subject to the payment of a licence fee varying in amount from 5*s.* 6*d.* to £1 or more. This new rule involves an economic re-adjustment which the people—professional timber-workers as well as ordinary farmers—have not yet been able to achieve. The carpenters of Bida almost went on strike when the new licence was introduced, and refused to manufacture any more wooden stools and other products of their craft for fear of being unable to sell their goods for the higher price which the licence would necessitate. Another illustration is the case of [672] an old man, a carpenter, who, unaware of the new rule, had bought a barren locust-bean tree in Bida for felling, for 7*s.* 6*d.* When he was requested to pay the licence fee of 5*s.* 6*d.* he was unable to do so. His case came before the Bida Court, but in consideration of his poverty and age the court reduced the licence fee for him to 1*s.* 4*d.* It is too early yet to say what effect this licence will have on the Nupe wood-working industry: whether it will lead to a technical readjustment and a change in the kind of timber used, or to a gradual deterioration and eventual disappearance of the indigenous wood-carving technique, which is already feeling the competition of the cheaper, and infinitely uglier, products in Western style: packing-case chairs and tables, deck-chairs, and the like.[1]

[323 325 171] [1] It is to be feared that it will be this latter case with which Nupe wood-carving will meet. In other crafts these changes in material and partly style are already an accomplished fact: thus the Bida glass-workers have almost completely abandoned making their own glass, and make their bangles and beads of smelted down bottle glass of European manufacture; similarly the Nupe blacksmiths buy cheap sheet-iron at the trading stores, and no longer smelt their own iron ore.

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and commerce have greatly benefited from the new development, the position of the peasants and craftsmen has not improved to the extent of enabling them to accumulate reserves and increase their resources to any considerable extent. The introduction of commercial crops, the cultivation of which is officially encouraged, represents a policy designed to open to the native cultivator the way to economic betterment. Yet the insecurity of these new resources may defeat their own ends. A more recent move to improve the economic position of the farmers was the launching of a policy to introduce mixed farming into Bida Emirate. Mixed farming, which had been adopted some years previously in certain northern Emirates, was started in Nupe towards the end of my second expedition. At that time only the demonstration farms of the N.A. and certain stretches of land belonging to the Emir, all worked by wage-labour, had been put under the new cultivation. While it is thus too early to describe actual results, it is possible to outline, from the study of the underlying principles, certain probable effects of this agricultural policy on the economic and social system of the country. They are sufficiently far-reaching to warrant here a more extensive examination.[1]

This policy envisages a gradual transformation of the whole of Northern Nigeria into arable country cultivated on Western lines, on the basis of individual landholdings. The working team should consist of one man and a boy. The 2 acres per head which have hitherto corresponded to an individual worker would be extended to 12, and eventually to 20 acres. The manure gained from the draught cattle would do away with the necessity of shifting cultivation and would allow practically unlimited cultivation of the same stretch of land. A four-field scheme of rotation is suggested, with one field manured, and the following crops grown on the different fields: sorghum and millet (on the manured field); cotton; ground-nuts; cassava and small crops. The most prosperous farmers in a district are to be persuaded to take up mixed farming first, thus giving an example which, it is hoped, many others will soon follow. The total cost of the draught cattle (two bullocks and one cow) and plough is £7 for an iron, and £5 for a wooden, plough. Farmers who are unable to buy the equipment outright will be given an advance on future profits of £1 to £1. 10s., or can pay an 'entrance fee' of approximately that amount, being expected to pay the rest, viz. repay the advance, in four yearly instalments which include a hiring charge of 5 per cent. The greatly increased yield should make these payments easy: it has been calculated that the farmer will be able to increase his production eightfold by the new method.

The scheme, admirable though its intentions are, may easily be wrecked if certain inherent dangers and difficulties are not carefully considered. Let us take the example of the most prosperous and progressive farmers of Lemu whose landholdings we have examined in an earlier chapter (see p. 212). We found that the total land under cultivation in the case of a working group of five and three men was 9½ and 6 acres,

[1] I am greatly indebted to the Superintendent of Agriculture in Bida for having allowed me access to the departmental files on mixed farming.

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respectively. The larger group possessed one, the smaller two, fallow fields of the same size as the field under cultivation. Their total landholdings, including both cultivated and fallow fields, thus amounted to 18 and 19 acres. Now, under the new scheme one individual would take under cultivation very nearly the whole landholdings of the family group. The other adult members of the family will have to obtain new land or (only too probably) they will give up farming. In Trans-Kaduna, with its large land supplies, new land might be found with no great difficulty from vacant or virgin village land. But even under these favourable conditions the fourfold increase of landholdings entailed in this development must lead, if not to actual land shortage, to serious competition for land. For one thing, farm-land for ploughing should lie closer together than it does now. The Nupe farmers will soon find it profitable to exchange their scattered ½ acre or 1 acre fields for larger and compact areas, an exchange which, involving a discriminative appreciation of land, must invariably lead to land purchase and land sale. In Cis-Kaduna, with its limited land resources, land sales are, as we have seen, already practised on a small scale. Here, in the country of the big landowners, land purchase and land sale will increase rapidly under the new scheme.

The redistribution of land resources will go hand in hand with far-reaching changes in the economic stratification of the country. The prosperous peasant who was able to take advantage of the new scheme will in a few years' time command considerable resources. No doubt, the obvious way to invest the newly won capital will be in more ploughs and more land.[1] The more unfortunate farmers who, for reasons of poverty or lack of enterprise, are not able to avail themselves early of the new scheme will be hopelessly outdistanced by the rapid development. The increased agricultural production, of which a half will be for internal consumption, must lower the price of food crops in the country. The small farmer, who relies on food crops more than on commercial crops, will be compelled to sell his produce at a price so low that he may be unable to pay his tax or to maintain his labour costs. Sooner or later he will succumb to the temptation to sell or let his land to those who, having benefited from the new scheme, will be anxious to acquire new land, and he will be forced eventually into the position of a landless labourer on the farms of the new landowning class. The Emir, on whose estate mixed farming has been established first, will be foremost among the new landlords of the country.

The levelling-down of economic inequality which accompanied the establishment of British rule in Nigeria will thus be replaced by a new, much more defined stratification. Poverty in the present productive system of the country is due, as we have seen, mainly to inadequate labour (disregarding here the factors of land shortage and tax), that is, to such factors as age, illness, misfortune, or ill-planned labour-

[1] This is not a mere hypothesis. The tendency to accumulate land is already noticeable in the northern Emirates where mixed farming was introduced earlier, and has led more than once to official attempts to keep landed property within certain limits.

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organization, all of which—in theory at least—can easily be remedied. Poverty in the new scheme will be due to a fundamentally different inadequacy, the inability to secure the necessary means of production. It is a permanent, and even progressive, inadequacy, which must get worse with the continued process of production. For the same process that leads to accumulation of capital (in the modern sense of the word) in the hands of the owner of the adequate means of production will render more and more remote the chances of their acquisition by the people who are as yet without them. Economic inequality in its most extreme form, *latifundia* existing side by side with a landless proletariat, will be the final result.

These grave consequences can be avoided, and the valuable elements in the new policy saved, I think, by slowing-up the transformation of the agricultural system of the country until a corresponding transformation of the labour organization can be achieved. The increase in the cost of the means of production must be met by widening the basis of the co-operative unit which makes itself responsible for the maintenance of labour in this sense into co-operative societies. Co-operative societies, which could buy the new means of production from common funds, and would jointly own ploughs and cattle, would enable also the less prosperous farmer to profit from the technical improvements. A co-operative society which would include, for example, all the owners of adjacent fields would also be able to utilize ploughing to the fullest advantage without incurring the danger of large-scale land-exchange. The increase in the extent of cultivation would be gradual and well controlled, and the traditional labour-unit not rendered useless overnight; it would still be useful for supplementary farm-work (in the traditional fashion) at times when plough and cattle are employed on the field of a fellow member of the farm co-operative.[1]

RISK AND INSURANCE

Every productive organization must include in its calculations the factor of risk and insurance against risk. Certain risks are over and above the normal in that they are due to accidents outside the productive system itself, and beyond the range of foresight which the producers

[1] When I discussed this question in a lecture given at the Summer School for Colonial Studies in Oxford, in 1937 (see the *Summary of Lectures*), I was attacked by a member of the audience for attempting to 'boost poverty'. Now, this is a serious charge. However, I hope to have made it clear that my attempt was not towards fostering poverty or pampering backwardness, but towards avoiding a development which would create, and make permanent, the most dangerous form of poverty and economic dependence. To organize the less prosperous so that they should not be left behind in economic progress does in no way imply putting obstacles in the way of the more enterprising. 'The rich', as the chairman, who came to my assistance in the discussion, put it, 'will look after themselves.' It is interesting to note in this connexion that when mixed farming was discussed at the Residents' Conference in 1936 one Resident suggested that it might be feasible to utilize the Hausa *gaya* (collective farm-work) for the new agricultural organization. I presume that he, too, had in mind a co-operative organization of the kind suggested above.